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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,095

03/02/2007

Zhenfu Zhao

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EXAMINER

ANWARI, MACEEH

ART UNIT

PAPER NUMBER

2144

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,095	<b>Applicant(s)</b> ZHAO ET AL.	
	<b>Examiner</b> MACEEH ANWARI	<b>Art Unit</b> 2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/30/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This is the initial Office action based on the 10/585, 095 application filed on 03/02/2007. **Claims 1-8**, as originally filled, are currently pending and have been considered below.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 3** recites the limitation “user management strategy” in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

4.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claim 1-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Droms et al. (Droms)** U.S. Patent No.: 7,143,435 B1 and further in view of **Lim et al. (Lim)**, U.S. Patent No.: 5, 884,024.

8. Regarding independent **claim 1**, **Droms** discloses a *method of broadband access device for controlling a DHCP relay user to implement control and management of interaction between a DHCP client and a DHCP server* (Figures 1-5B and Abstract & par. 22 & 28; DHCP client and DHCP server) *so that all of the DHCP messages interacted between the DHCP client and the DHCP server can pass through the DHCP relay* (Figures 1-5B and Abstract & par. 22 & 28; forwarding packet authenticator, RADIUS server and relay agent).

However, **Droms** does not explicitly mention the which *modifying protocol fields in all of DHCP messages interacted between a DHCP relay and the DHCP client and the DHCP server during initiation phase of the DHCP interaction at Application Layer of TCP/IP protocol*.

In the same field of endeavor, **Lim** discloses *modifying protocol fields in all of DHCP messages interacted between a DHCP relay and the DHCP client and the DHCP server during initiation phase of the DHCP interaction at Application Layer of TCP/IP protocol* (Figures 5-6 and Abstract; trusted identifiers).

Accordingly it would have been obvious to one of ordinary skill in the networking art to modify or incorporate **Lim's** teachings of embedding DHCP messages with an identifier to help better track and identify the packets with **Droms** to help better ensure the passing of messages through the relay.

Art Unit: 2144

9. Regarding independent **claim 2**, **Droms-Lim** discloses *wherein the modifying further comprises the following steps: Step 1, after receiving any DHCP messages for request sent from the DHCP client to the DHCP server, the DHCP relay filling in fields associated with the DHCP relay in the DHCP message for request, so that any DHCP messages for response returned from the DHCP server to the DHCP client can pass through the DHCP relay (Droms Figure 2-5B; DHCP request, DHCP client, DHCP server, DHCP relay and authentication/authorization data); Step 2, after receiving a first DHCP message for response returned from the DHCP server to the DHCP client, the DHCP relay extracting and storing DHCP server parameters of the fields associated with the DHCP server in the first DHCP message for response and then replacing the DHCP server parameters with DHCP relay parameters of the DHCP relay and sending the first DHCP message for response to the DHCP client (Droms Figure 2-5B; DHCP request, DHCP client, DHCP server, DHCP relay and authentication/authorization data); Step 3, the relay processing any received subsequent DHCP messages for response returned from the DHCP server to the DHCP client, determining whether the subsequent DHCP messages for response contains the fields associated with the DHCP sever, if not, sending the subsequent DHCP messages for response to the DHCP client directly, otherwise, replacing the DHCP server parameters in the fields associated with the DHCP server with the DHCP relay parameters, and then sending the subsequent DHCP messages for response to the DHCP client so that any subsequent DHCP messages for request sent from the DHCP client to the DHCP server can pass through the DHCP relay (Droms Figure 2-5B; DHCP request, DHCP client,*

Art Unit: 2144

DHCP server, DHCP relay and authentication/authorization data); *Step 4, the DHCP relay processing the subsequent DHCP messages for request, determining whether the subsequent DHCP messages for request contains the fields associated with the DHCP sever, if no, sending the subsequent data packet for request to the DHCP server directly, otherwise, filling in the fields associated with the DHCP server with the DHCP server parameter stored in Step 2, and then sending the subsequent DHCP messages for request to the DHCP server so that any subsequent DHCP messages for request can pass validity checking by the DHCP server* (Droms Figure 2-5B; DHCP request, DHCP client, DHCP server, DHCP relay and authentication/authorization data).

10. Regarding independent **claim 3, Droms-Lim** discloses *further comprising: Step 5, the DHCP relay controlling and managing the interaction between the DHCP client and the DHCP server, varying network parameters of the DHCP client and detecting the DHCP client online according to requirements of user management strategy* (Droms Figure 2-5B and par. 19; DHCP request, DHCP client, DHCP server, DHCP relay and authentication/authorization data).

11. Regarding independent **claim 4, Droms-Lim** discloses *wherein in Step 1, for DHCPDISCOVER or DHCPREQUEST message sent from the DHCP client to the DHCP server, the DHCP relay fills in the fields associated with the DHCP relay with values so that DHCPOFFER, DHCPACK or DHCPNAK response from the DHCP server to the DHCP client can be sent to the DHCP relay* (Lim Figures 5-6 and Abstract; trusted identifiers).

12. Regarding independent **claim 5**, **Droms-Lim** discloses *wherein in Step 2, the DHCP relay receives DHCPOFFER, DHCPACK or DHCPNAK response, extracts and stores the DHCP server parameters in DHCPOFFER, DHCPACK or DHCPNAK response, and replaces the DHCP server parameters with the DHCP relay parameters so that a unicast request to the DHCP server can be still sent to the DHCP relay after the DHCP client has configured IP address* (Droms Figures 1-5B and Abstract & par. 22 & 28; forwarding packet authenticator, RADIUS server and relay agent).

13. Regarding independent **claim 6**, **Droms-Lim** discloses *wherein in Step 3, the DHCP relay receives the subsequent DHCP messages for response, and if the fields associated with the DHCP server are contained, the DHCP relay replaces the values of the fields associated with the DHCP server with its IP address* (Droms Figures 1-5B and Abstract & par. 7-8, 12, 14 & 22; DHCP relay, DHCP server and IP address).

14. Regarding independent **claim 7**, **Droms-Lim** discloses *wherein the subsequent DHCP messages for response is DHCPACK message in Dynamical Host Configuration Protocol* (Droms Figures 1-5B and par. 47 & 74-75; acknowledgment message).

15. Regarding independent **claim 8**, **Droms-Lim** discloses *wherein the subsequent DHCP messages for request is DHCPREQUEST message, DHCPINFORM message or DHCPRELEASE message in Dynamical Host Configuration Protocol* (Droms Figures 1-5B; DHCP request, DHCP inform messages).

**Examiner Note:** Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially

**teaching of all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.**

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MACEEH ANWARI whose telephone number is (571)272-7591. The examiner can normally be reached on Monday-Friday 7:30-5:00 PM ES.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M.A.

/William C. Vaughn, Jr./  
Supervisory Patent Examiner, Art Unit 2144



Application/Control Number: 10/585,095  
Art Unit: 2144

Page 8